LEAK DETECTION GUIDE

Running water audible at the supply pipe entry point with no taps on

The short answer

A running or hissing sound near the supply pipe entry point, with every tap and appliance off, almost always means water is escaping from the underground supply line between the street meter and the building. The pipe runs under continuous mains pressure, so even a small fracture or deteriorated joint forces water through the surrounding soil and generates sound that travels along the pipe and into the building fabric. ADI Leak Detection traces these faults before any excavation takes place.

What causes it

The supply pipe enters a property under continuous mains pressure — typically between two and six bar depending on the local network. That pressure does not drop when taps are closed. Water pushes against every weak point in the pipe at all times.

The pipe itself runs from the boundary stopcock or meter, beneath the garden or driveway, through the external wall, and terminates at the internal stopcock. The section buried outside the building is the stretch that fails. Common failure points include corroded compression joints, cracked plastic pipework caused by ground movement, and lead or iron pipe that has degraded over decades of use. Clay soils in particular shift as they wet and dry, placing lateral stress on buried pipes and fittings.

When a fracture or joint failure develops, pressurised water escapes into the surrounding material — subsoil, gravel bedding, or compacted fill. That escaping water produces a turbulent hiss at the fault point. The sound then travels in two directions: outward through the

saturated ground, and inward along the pipe wall itself toward the building. Where the pipe passes through the floor slab or the wall sleeve, the structure acts as a sounding board, making the noise audible inside the property near the entry point. The sound is consistent and continuous because the pressure driving it never stops.

A spinning or ticking meter dial confirms the picture. With every outlet closed and no appliances drawing water, a moving dial means water is leaving the supply line somewhere between the meter and the internal stopcock.

How ADI finds it

ADI Leak Detection uses acoustic listening equipment specifically designed for pressurised supply pipe surveys. The process begins at the meter and the internal stopcock — two fixed reference points that define the section of pipe under investigation.

Ground microphones are placed on the surface above the pipe route. These instruments amplify the sound of escaping water through soil and hard surfaces. An engineer moves the microphones systematically along the pipe run, recording signal strength at each position. The leak produces its loudest signal directly above the fault point. On hard standings such as driveways or paths, a listening rod makes direct contact with the surface, picking up vibration transmitted through the slab.

Where the pipe route is unclear — particularly on older properties where no installation records exist — ADI uses pipe and cable locating equipment to trace the line before acoustic work begins. This avoids misreading signals from neighbouring pipework or drainage runs.

Correlation equipment adds a further layer of precision on longer pipe runs. Two sensors are placed at either end of the suspect section. The equipment measures the difference in arrival time of the leak signal at each sensor and calculates the fault position mathematically. ADI Leak Detection applies acoustic correlation to pinpoint leak locations on supply pipes, reducing the excavation area to the smallest practical footprint.

Thermal imaging of the internal floor and wall around the entry point helps identify secondary moisture pathways — water that has tracked along the pipe sleeve or through voids in the floor structure. This does not locate the leak itself, but it maps how far water has already spread.

The meter is checked at the start and end of the survey. A stationary dial after the internal stopcock is closed confirms the fault lies on the section between the stopcock and the meter. A dial that continues to move with the stopcock closed indicates a secondary fault inside the property.

What to do next

Close the internal stopcock and watch the meter dial. If the dial stops, the leak is on the supply pipe between the meter and the stopcock. If the dial continues to move, there is a fault on the internal pipework as well. Note which reading applies — this information helps the survey engineer plan the investigation.

Do not attempt to dig along the pipe route before a survey. Excavating without a confirmed fault location risks damaging the pipe further and increases reinstatement costs significantly.

Check whether the supply pipe is covered under a home emergency insurance policy or a water supplier's supply pipe repair scheme. Some suppliers accept responsibility for the section up to the boundary; others do not. Knowing the policy position before work starts avoids disputes over who funds the repair.

Arrange a leak detection survey before calling a groundworks contractor. A confirmed fault location with supporting documentation from the survey simplifies both the repair and any insurance claim that follows.